

WHAT IS CLAIMED IS:

Add A2
1 1. A data unit, for use with a substrate having
2 first and second edges and a data surface region therebetween,
3 comprising:
4 a base;

5 a substrate support, configured to support a
6 substrate, mounted to the base for controlled movement along a
7 first path;

8 first and second data head support surfaces
9 positioned at opposite ends of a second path and adjacent to
10 said substrate support, said first and second paths being
11 transverse to one another;

12 a data head drive mounted to the base, the data head
13 drive comprising a data head reciprocally movable along the
14 second path; and

15 said data head comprising a data head surface which
16 contacts said first and second data head support surfaces as
17 said data head moves along the opposite ends of said second
18 path.

1 2. The data unit according to claim 1 wherein the
2 substrate support is configured to support a substrate in the
3 form of a rectangular card.

1 3. The data unit according to claim 1 wherein the
2 substrate support moves along the first path only.

1 4. The data unit according to claim 1 wherein said
2 second path is an arcuate path.

1 5. The data unit according to claim 1 wherein said
2 second path is a straight path.

1 6. The data unit according to claim 1 wherein the
2 data unit comprises a substrate handler, said substrate
3 handler comprising:

4 a substrate feeder configured to deliver a substrate
5 to and remove the substrate from the substrate support; and
6 a substrate positioner configured to position the
7 substrate on and secure the substrate to the substrate
8 support.

1 7. The data unit according to claim 6 wherein the
2 substrate feeder comprises feed rollers and at least one
3 substrate cleaner roller.

1 8. The data unit according to claim 6 wherein said
2 substrate support is configured to support a rectangular
3 substrate having edges.

10 9. The data unit according to claim 8 wherein
11 substrate positioner comprises lateral edge guides mounted to
12 the substrate support and biased towards one another so a
13 substrate positioned between the edge guides has its edges
14 captured therebetween.
15 X

16 10. The data unit according to claim 9 wherein said
17 substrate positioner comprises means for separating the
18 lateral edge guides when said substrate support is moved along
19 the first track to a load/unload position so to permit a
20 substrate to be freely mounted to or removed from the
21 substrate support when at said load/unload position.

22 11. The data unit according to claim 9 wherein said
23 lateral edge guides comprise overhanging lips configured to
24 overlie a substrate when said edge guides engage said edges.

25 12. The data unit according to claim 11 wherein
26 said overlapping lips comprise substrate engaging surfaces
27 oriented generally coplanar with said data head support
28 surfaces.

29 13. The data unit according to claim 6 wherein the
30 substrate support comprises a first edge limit surface

3 positioned to engage an edge of a substrate so to limit
4 movement of the substrate onto the substrate support.

1 14. The data system according to claim 13 wherein
2 the substrate positioner comprises an edge guide, mounted to
3 the base, engagable with a second edge of a substrate so to
4 move the substrate against the first edge limit surface as the
5 substrate support is moved from a load/unload position, at
6 which the substrate is mountable to and removable from the
7 substrate support, towards a use position, at which the data
8 head moves along the second path.

1 15. A data system comprising:
2 a substrate having first and second edges and a data
3 surface region therebetween; and
4 a data unit comprising:

5 a base;
6 a substrate support, supporting the substrate,
7 mounted to the base for controlled movement along a first
8 path;

9 first and second data head support surfaces
10 positioned at opposite ends of a second path and adjacent to
11 said first and second edges of said substrate, said first and
12 second paths being transverse to one another;

13 a data head drive mounted to the base, the data
14 head drive comprising a data head reciprocally movable along
15 said second path; and

16 said data head comprising a data head surface
17 which contacts said data surface region and said first and
18 second data head support surfaces as said data head moves
19 along said second path.

1 16. The data system according to claim 15 wherein
2 said substrate comprises outer layers bonded to a center
3 layer.

Best Available Copy

1 17. The data system according to claim 16 wherein
2 said outer layers comprise plastic material and the center
3 layer comprises a ceramic material.

1 18. The data system according to claim 15 wherein
2 said data surface region comprises nickel-cobalt.

1 19. The data system according to claim 15 wherein
2 said data surface region extends to both said first and second
3 edges.

1 20. The data system according to claim 15 wherein
2 the first and second data head support surfaces are generally
3 coplanar with the data surface region.

1 21. The data system according to claim 15 wherein
2 the data unit comprises a substrate handler comprising:

3 a substrate feeder which delivers the substrate to
4 and removes the substrate from the substrate support; and

5 a substrate positioner, which properly positions the
6 substrate on and secures the substrate to the substrate
7 support.

1 22. The data system according to claim 21 wherein
2 said substrate feeder comprises a data surface region sensor
3 for sensing said data surface region.

1 23. The data system according to claim 22 wherein
2 the substrate comprises a magnetic stripe region and the
3 substrate reader comprises a magnetic stripe reader for
4 reading information from the magnetic stripe region.

1 24. The data system according to claim 21 wherein
2 said substrate support is configured to support a rectangular
3 substrate having edges.

1 25. The data system according to claim 24 wherein
2 substrate positioner comprises lateral edge guides mounted to

Best Available Copy

3 the substrate support and biased towards one another so the
4 substrate positioned between the edge guides has its edges
5 captured therebetween.

1 26. The data system according to claim 25 wherein
2 said substrate positioner comprises means for separating the
3 lateral edge guides when said substrate support is moved along
4 the first track to a load/unload position so to permit the
5 substrate to be freely mounted to or removed from the
6 substrate support when at said load/unload position.

1 27. The data unit according to claim 25 wherein
2 said lateral edge guides comprise overhanging lips configured
3 to overlie a substrate when said edge guides engage said
4 edges.

1 28. The data system according to claim 27 wherein
2 said substrate positioner comprises means for biasing a
3 substrate against the overhanging lips to position the data
4 surface region to be generally coplanar with the acceleration
5 surfaces.

1 29. The data system according to claim 21 wherein
2 the substrate support comprises a first edge limit surface
3 positioned to engage an edge of the substrate so to limit
4 movement of the substrate onto the substrate support.

1 30. The data system according to claim 29 wherein
2 the substrate positioner comprises an edge guide, mounted to
3 the base, engagable with a second edge of a substrate so to
4 move the substrate against the first edge limit surface as the
5 substrate support is moved from a load/unload position, at
6 which the substrate is mountable to and removable from the
7 substrate support, towards a use position, at which the data
8 head moves along the second path and contacts the data surface
9 region.